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National Oceanic and Atmospheric Administration
National Marine Fisheries Service

Occurrence of Larval, Juvenile, and Mature Crabs in the Vicinity of Beaufort Inlet, North Carolina

DONNIE L. DUDLEY AND MAYO H. JUDY

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Occurrence of Larval, Juvenile, and Mature Crabs in the Vicinity of Beaufort Inlet, North Carolina

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ABSTRACT

Monthly samples from 13 ocean stations near Beaufort Inlet, N.C., were examined for the occurrence of crab larvae in 1962. Larval collections were supplemented by sampling with a bottom trawl for juveniles and adults in 1962 and 1963. Trawling was restricted to a small area near the sea buoy at the Inlet. Larvae of 27 species of crabs were taken during the study and were most abundant during the summer and fall. Adults of 13 species of crabs occurred in the collections, with *Callinectes sapidus, C. similis, Portunus gibbesii, Ovalipes ocellatus*, and *Hepatus epheliticus* being the more prevalent.

INTRODUCTION

During 1962 and 1963, as a part of the blue crab studies at the National Marine Fisheries Service Laboratory, Beaufort, N.C., plankton samplers and bottom trawls were fished offshore to determine the seasonal distribution and abundance of various crab stages. Plankton stations were sampled twice a month from May through November 1962, and bottom trawl samples for juvenile and adult crabs were taken twice a month from June 1962 through December 1963. The study provided information on the species present and their time of spawning. Also, our knowledge of the size of the crab populations was increased.

SAMPLING STATIONS AND TECHNIQUES

Larvae were collected in the ocean at 13 plankton stations in an area extending approximately 8 km east and west of the Beaufort Inlet and 13 km offshore (Figure 1). Stations 1, 2, 5, 6, 9, and 10 were approximately 1.6 km offshore and stations 3, 4, 7, 8, and 11 were approximately 6.5 km offshore. Stations 12 and 13 were 10 and 13 km offshore, respectively. Stations were located about 4 km apart on an east-west axis. Two samples were collected twice a month at each station, one at 1 m and the other at 8 m below the surface. Two 127-mm diameter Clark-Bumpus plankton samplers, equipped with nylon net with 526-μ mesh openings and a cap with 390-μ mesh openings, were used for sampling. Samples were collected by fishing the two samplers simultaneously for 10 min. The samples were preserved in 2% formaldehyde in 120-ml jars. Three 4-ml aliquots of each sample were examined for crab larvae.

Two 30-min hauls with a 8.5-m otter trawl were made twice a month near the sea buoy (Figure 1, station 3) in 11 to 14 m of water. The trawl was constructed of nylon netting with 22-mm mesh (bar measure) in the body

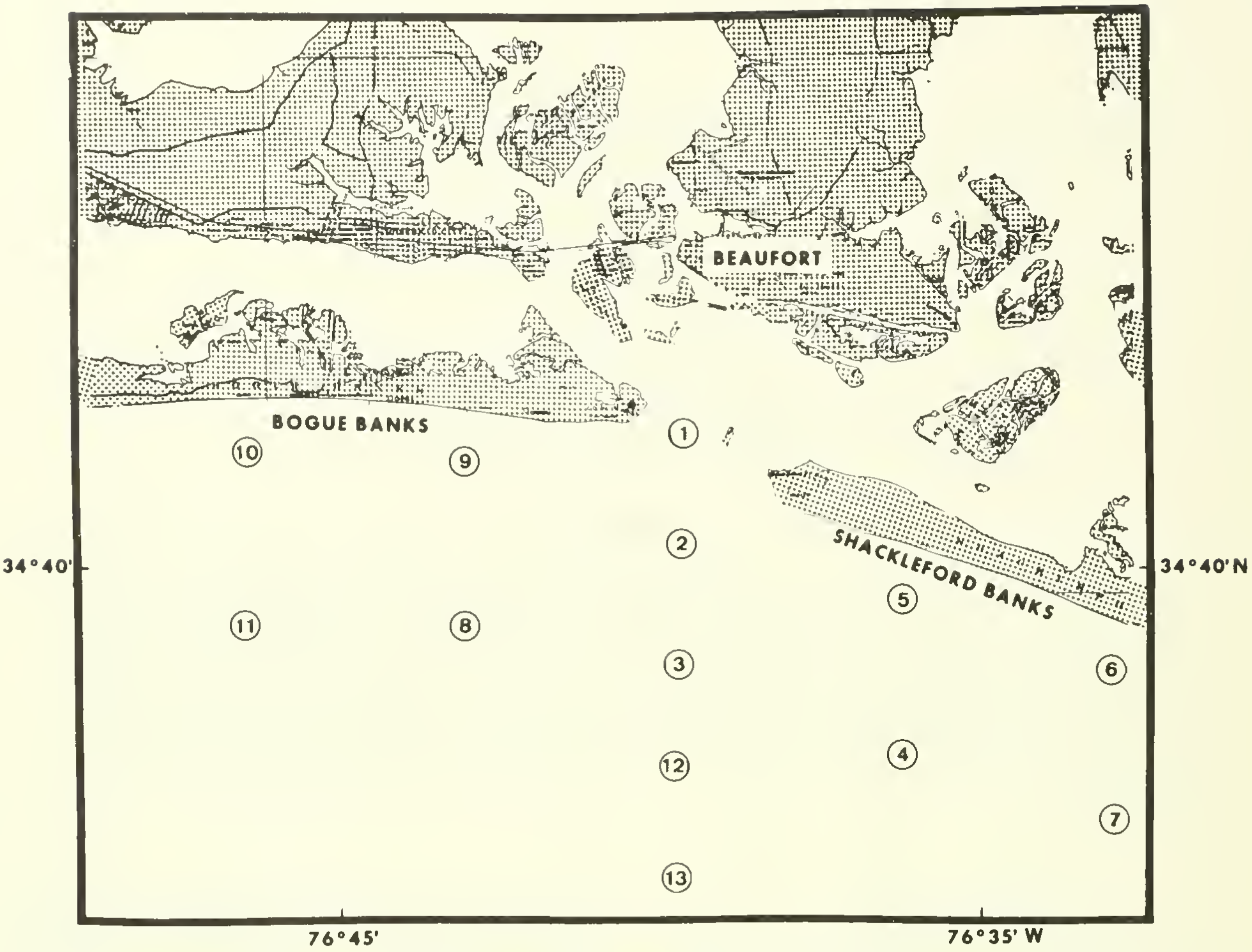

Figure 1.—Plankton sampling stations in vicinity of Beaufort Inlet, Beaufort, N.C.

and 13-mm mesh in the cod end. Relative abundance, size, sex, and stage of sexual maturity of the females were obtained for each species present. The egg mass or sponge, if present, was recorded either as orange, first laid eggs, or as black, mature eggs ready to hatch.

SEASONAL OCCURRENCE OF LARVAL, JUVENILE, AND ADULT CRABS

Larval Crabs

Plankton collections contained 27 different types of crab larvae. *Callinectes* spp. were identified as to larval and megalops stages. Other crabs were identified only as to genus or species (Tables 1, 2, and 3). The most abundant genus was *Callinectes* which occurred during all months sampled (May through November) with the highest catches in June, July, and August. *Callinectes* spp. larvae were taken at all stations but greater concentrations were found at the offshore stations and generally were caught near the surface. Of special interest was the presence of *Callinectes* (stages 2 and 3) at offshore stations 12 and 13. Nichols and Keney (1963) found the more advanced stages of *Callinectes* 64 to 97 km offshore in plankton collections from the *Theodore N. Gill* cruises. In our samples megalops larvae (last larval stage) were collected only occasionally and then only in small numbers.

One of the more abundant genera, *Uca*, was prevalent from May through August but not after September. This genus was well represented in the collections at most stations but

Table 1.—Mean number of larval crabs per 20 cubic meters of water collected from May through November 1962 at inshore stations 1, 2, 5, 6, 9, and 10.

Species	May		June		July		Aug.		Sept.		Oct.		Nov.		References
	Depth														
	1 m	8 m	1 m	8 m	1 m	8 m	1 m	8 m	1 m	8 m	1 m	8 m	1 m	8 m	
Callinectes spp.															6, 21
Stage 1	81	62	430	287	303	243	88	80	46	23	50	50	2	--	
Stage 2	--	--	--	--	20	--	2	4	5	--	5	4	--	--	
Stage 3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Stage 4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Stage 5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Dissodactylus mellitae	4	4	--	2	1	6	--	8	2	4	2	6	--	--	16
Emerita talpoida	10	8	4	2	2	21	3	19	2	3	--	--	--	--	25
Eurypanopeus depressus	--	--	14	46	4	7	13	24	--	--	4	--	--	--	8, 17, 18, 26
Hepatus epheliticus	--	--	10	4	64	13	5	2	40	7	5	7	--	--	[1]10
Leucosiidae	--	--	--	19	48	14	3	26	7	15	6	--	--	--	1, 2, 3
Libinia spp	--	2	--	--	--	3	--	2	--	--	--	--	--	--	[2]23
Menippe mercenaria	--	--	10	7	6	10	7	20	--	--	--	--	--	--	17, 18, 20, 27
Neopanope texana sayi	12	41	34	285	13	36	16	69	27	19	--	2	--	2	5, 17, 18, 26
Pachygrapsus transversus	--	--	28	--	--	--	--	--	--	--	3	8	--	--	16
Panopeus herbstii	8	20	27	106	10	65	23	133	2	2	2	--	50	38	9, 17, 18, 26
Pilumnus spp	--	--	--	2	1	7	5	11	4	--	--	--	--	--	17, 18, 26
Pinnixa spp	49	39	39	206	9	98	40	272	100	71	75	367	--	--	15
Pinnotheres maculatus	--	2	--	2	4	5	8	20	16	--	4	13	--	--	15
Pinnotheres ostreum	--	--	--	7	--	1	5	8	4	7	--	5	--	--	15
Polyonyx gibbesi	5	3	3	18	12	48	--	2	8	6	15	14	3	13	4, 12
Portunus gibbesii	116	44	23	114	122	20	24	3	11	4	--	--	--	2	[1]24
Portunus sayi	13	8	--	11	--	--	--	--	30	6	9	5	15	18	[2]24
Sesarma spp	--	--	2	78	3	17	8	106	--	--	--	--	--	--	7, 11, 16
Uca spp	40	60	657	1,347	459	70	515	792	31	20	--	--	--	--	14
Unknown zoeae[3]	A5	--	A14	A7	A2	--	A5	A10	C32	C16	C4	C52	--	C4	
Unknown[3]	--	--	D8	D3	--	--	D2	D3	D5	D2	D7	D2	--	--	
Megalops:															
Callinectes spp.	--	--	--	--	--	--	--	--	2	--	2	3	--	--	6
Eurypanopeus spp	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8, 17, 18, 26
Neopanope spp	--	--	--	2	--	--	--	--	--	--	--	--	--	--	5, 17, 18, 26
Panopeus spp	--	--	--	--	--	--	--	--	9	4	--	2	--	--	8, 17, 18, 26
Uca spp	--	--	13	--	--	10	3	38	4	1	--	--	--	--	14

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[1] Zoeae raised from known crab, unpublished data Duke University Marine Laboratory, Beaufort, N.C.

[2] Zoeae raised from known crab, unpublished data National Marine Fisheries Service, Beaufort, N.C.

[3] The letters represent the larvae type, the number accompanying the letter is the mean number of crabs of that type in the sample.

Table 2.—Mean number of larval crabs per 20 cubic meters of water collected from May through November 1962 at offshore stations 3, 4, 7, 8, and 11.

Species	May		June		July		Aug.		Sept.		Oct.		Nov.		References
	Depth														
	1 m	8 m	1 m	8 m	1 m	8 m	1 m	8 m	1 m	8 m	1 m	8 m	1 m	8 m	
Callinectes spp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6, 21
Stage 1	97	493	525	1,061	3,955	879	595	257	26	50	56	76	--	--	
Stage 2	--	--	43	91	64	17	124	21	--	--	10	4	4	--	
Stage 3	--	--	--	4	2	--	14	--	--	--	--	--	4	--	
Stage 4	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Stage 5	--	--	--	--	--	--	--	--	--	--	--	--	2	--	
Dissodactylus mellitae	--	--	--	--	10	2	3	10	2	2	--	7	--	--	16
Emerita talpoida	4	90	--	4	5	11	--	99	2	2	--	3	--	--	25
Eurypanopeus depressus	--	9	4	14	2	10	--	5	--	2	2	3	--	--	8, 17, 18, 26
Hepatus epheliticus	--	--	4	8	157	17	109	29	51	18	11	7	2	--	[1]10
Leucosiidae	--	--	11	27	71	29	19	39	2	--	2	13	2	6	1, 2, 3
Libinia spp	--	--	--	--	--	2	--	--	--	--	--	--	--	--	[2]23
Menippe mercenaria	--	--	4	23	8	2	13	3	--	--	--	--	--	--	17, 18, 20, 27
Neopanope texana sayi	10	27	70	130	16	45	11	40	5	--	--	5	--	2	5, 17, 18, 26
Pachygrapsus transversus	--	--	4	--	--	--	--	--	--	--	--	--	--	--	16
Panopeus herbstii	5	14	18	63	5	33	23	48	--	5	--	--	--	--	9, 17, 18, 26
Pilumnus spp	--	--	--	8	--	5	3	23	--	--	--	--	--	--	17, 18, 26
Pinnixa spp	48	92	26	48	11	19	23	199	44	107	80	730	68	175	15
Pinnotheres maculatus	--	--	--	--	--	--	--	5	--	9	5	7	2	--	15
Pinnotheres ostreum	--	--	--	--	3	--	--	4	--	5	--	7	--	--	15
Polyonyx gibbesi	--	3	--	4	16	3	--	15	2	9	5	30	6	29	4, 12
Portunus gibbesii	242	90	58	88	292	37	156	38	28	5	12	5	--	2	[1]24
Portunus sayi	68	54	--	--	--	--	--	--	12	2	13	4	24	58	[2]24
Sesarma spp	--	--	63	10	--	5	5	13	--	3	--	--	--	--	7, 11, 16
Uca spp	56	185	857	372	444	239	448	223	7	14	--	--	--	--	14
Unknown zoeae[3]	A6	3	D7	B2	A2	F3	A5	C22	C26	C3	C15	C25	25	A4 C40	
Unknown[3]	D9	--	A7	--	F9	B2	D5	B3 D5	D5	--	--	--	G4	G6 D4	
Megalops:															
Callinectes spp.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6
Eurypanopeus spp	--	--	--	4	--	--	--	--	--	--	--	--	--	--	8, 17, 18, 26
Neopanope spp	--	--	--	--	--	--	--	2	2	--	--	--	--	--	5, 17, 18, 26
Panopeus spp	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8, 17, 18, 26
Uca spp	--	--	--	4	--	3	--	8	--	--	--	--	--	--	14

[1] Zoeae raised from known crab, unpublished data Duke University Marine Laboratory, Beaufort, N.C.

[2] Zoeae raised from known crab, unpublished data National Marine Fisheries Service, Beaufort, N.C.

[3] The letters represent the larvae type, the number accompanying the letter is the mean number of crabs of that type in the sample.

Table 3.—Mean number of larval crabs per 20 cubic meters of water collected from May through November 1962 at offshore stations 12 and 13.

Species	May		June		July		Aug.		Sept.		Oct.		Nov.		References
	Depth														
	1 m	8 m	1 m	8 m	1 m	8 m	1 m	8 m	1 m	8 m	1 m	8 m	1 m	8 m	
Callinectes spp.															6, 21
Stage 1	36	342	48	1,505	436	586	1,283	810	118	107	--	53	--	--	
Stage 2	--	43	--	736	88	28	755	126	--	5	14	--	--	--	
Stage 3	--	--	--	8	--	--	345	165	--	--	--	--	--	--	
Stage 4	--	--	--	--	--	--	--	35	--	--	--	--	--	--	
Stage 5	--	--	--	--	--	--	--	9	--	--	--	--	--	--	
Dissodactylus mellitae	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16
Emerita talpoida	--	--	--	25	--	63	17	--	--	22	--	6	--	--	25
Eurypanopeus depressus	--	--	--	25	--	20	--	--	--	--	--	--	--	--	8, 17, 18, 26
Hepatus epheliticus	--	--	--	--	229	9	70	7	48	26	--	--	--	--	[1]10
Leucosiidae	--	--	--	25	--	41	26	15	--	4	--	13	--	12	1, 2, 3
Libinia spp	--	--	--	--	--	--	--	--	--	--	--	--	--	--	[2]23
Menippe mercenaria	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17, 18, 20, 27
Neopanope texana sayi	--	--	--	8	--	15	--	--	--	5	--	--	--	5	5, 17, 18, 26
Pachygrapsus transversus	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16
Panopeus herbstii	--	21	--	--	5	72	--	17	--	--	--	--	5	--	9, 17, 18, 26
Pilumus spp	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17, 18, 26
Pinnixa spp	--	21	--	16	--	--	--	27	10	11	19	520	7	207	15
Pinnotheres maculatus	--	--	--	--	--	--	--	--	--	--	--	6	11	--	15
Pinnotheres ostreum	--	--	--	--	--	--	--	--	--	--	--	7	--	--	15
Polyonyx gibbesi	--	--	--	--	--	5	--	--	--	16	--	13	--	32	4, 12
Portunus gibbesii	--	149	267	524	87	85	634	51	54	50	34	26	--	--	[1]24
Portunus sayi	--	43	--	--	--	--	61	--	12	10	169	104	35	73	[2]24
Sesarma spp	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7, 11, 16
Uca spp	--	64	19	33	23	199	22	14	5	16	--	--	--	--	14
Unknown zoeae[3]	--	--	--	B50	--	B26	D88	D12	D5	C5	--	C7	C34	C54	
Unknown[3]	--	--	--	--	--	A10	--	B4	--	D4	--	D14	D5	--	
Megalops:															
Callinectes spp.	--	--	--	--	--	--	--	9	--	--	--	--	7	--	
Eurypanopeus spp	--	--	--	8	--	--	--	--	--	--	--	--	--	--	8, 17, 18, 26
Neopanope spp	--	--	--	8	--	--	--	--	--	--	--	--	--	--	5, 17, 18, 26
Panopeus spp	--	--	--	--	--	--	--	--	--	--	--	6	--	--	8, 17, 18, 26
Uca spp	--	--	--	--	--	--	--	9	--	30	--	12	--	--	14

[1] Zoeae raised from known crab, unpublished data Duke University Marine Laboratory, Beaufort, N.C.

[2] Zoeae raised from known crab, unpublished data National Marine Fisheries Service, Beaufort, N.C.

[3] The letters represent the larvae type, the number accompanying the letter is the mean number of crabs of that type in the sample.

only a few were taken at the offshore stations (12 and 13). *Uca* spp. larvae were taken in equal numbers at both the 1-m and the 8-m depths. The megalops stages were collected only during August, September, and October.

Neopanope spp. occurred from May through November and were most numerous at the 8-m depth and inshore stations. This genus was found only four times at stations 12 and 13, and only at the 8-m depth.

Pinnixa spp. occurred at all stations and during all months of sampling, May through November. Occurrence was greatest at the 8-m depth.

Portunus gibbesii occurred in relatively large numbers at all stations from May through November. More were taken at the 1-m depth and higher concentrations occurred from May through August. The offshore stations were more productive.

Hepatus spp. occurred in relatively large numbers during July, August, and September; best catches were near the surface at offshore stations.

Juvenile and Adult Crabs

One of the more abundant species collected with the bottom trawl was the blue crab, *Callinectes sapidus* (Table 4). Adults were quite common from June through September, and immature forms were more abundant during June and July. The adult population was almost 95% females. Male crabs are generally found in the lower saline waters of this area, primarily in the upper Newport River, Neuse River, etc. More than 50% of the females caught during June, July, and August had a sponge (egg mass on the abdomen). The blue crabs caught during January and February 1963 were taken in an area where clam dredges were operating. Blue crabs normally are buried in the soft bottom and are not available to trawl gear at this time. Trawl samples in areas away from the dredge areas did not contain blue crabs.

Callinectes similis also were common and occurred during most months but were most abundant during July and August. Peak spawning (black sponges observed) of *C. similis* occurred during September and October, while peak spawning of *C. sapidus* occurred during June, July, and August. Even though some overlap in spawning occurred, this time difference in "prime hatching periods" could serve as a guide in separating the larvae of the two forms.

Portunus gibbesii are year round inhabitants of this area occurring in greater numbers during June, July, and August. Females bearing egg masses were found principally during May and June.

Ovalipes ocellatus were numerous during June and July and probably are winter spawners because only four were taken with sponge, two in October, one in December, and one in February. The larvae were not identified in our plankton collections but could have been one of the unknowns.

Portunus spinimanus were most abundant from July through October. Only a few sponge females were taken, mostly in June. The larvae were not identified in our plankton collections.

SUMMARY

Larval, juvenile, and adult forms of 11 families and some 28 species were collected in the vicinity of Beaufort Inlet. Several other unidentified larval crab species were also collected during the study. Most species occurred in greatest numbers during summer and early fall. Generally only first and second stage *Callinectes* larvae were collected; other species were not identified as to stage. The megalops stage of only five genera were collected and in relatively small numbers.

Trawl studies indicated when different crab species were most prevalent and when larvae might be present by noting females with egg mass. Sex ratios were approximately the same for most species except *Callinectes sapidus*, which were predominantly female both as immatures and as matures.

Larval, juvenile, and adult crabs collected in the Beaufort Inlet area during 1962 and 1963 are shown in Table 5.

Table 4.—Species composition of crabs in the area of Beaufort Inlet, North Carolina.

Species	1962							1963												Total
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Arenaeus cribrarius										No samples taken						No samples taken				
Males	--	--	--	--	1	--	--	16	--		--	--	--	--	--		--	--	--	17
Females	--	--	--	1	2	--	--	10	--		--	--	--	--	--		--	1	--	14
Size range (mm)[1]	--	--	--	104	54-115	--	--	68-128	--		--	--	--	--	--		--	51	--	
Callapa flammea																				
Males	--	--	--	2	3	--	--	--	--		--	--	--	--	--		3	--	--	8
Females	--	--	--	--	1	--	--	--	--		--	--	--	--	--		4	--	--	5
Size range (mm)	--	--	--	120-134	108-140	--	--	--	--		--	--	--	--	--		67-113	--	--	
Callinectes sapidus																				
Immature males	25	250	8	2	1	--	--	9	5		2	--	1	1	--		--	--	--	304
Immature females	57	795	16	11	1	--	--	16	17		2	1	3	7	5		--	--	--	931
Size range (mm)[2]	38-88	38-115	84-109	92-112	44-45	--	--	--	33-109		34-102	59	60-80	50-43	--		--	--	--	
Males	73	121	28	18	12	3	3	2	3		--	--	--	2	10		3	1	--	279
Females	496	4,995	690	216	123	57	42	381	111		9	183	171	325	410		59	9	--	8,277
Without sponge	201	3,279	367	68	72	54	42	381	111		9	126	104	143	160		33	8	--	
Orange sponge	164	1,252	172	107	41	3	--	--	--		--	31	34	35	158		13	--	--	
Black sponge	131	474	151	41	10	--	--	--	--		--	26	33	147	92		13	1	--	
Callinectes similis																				
Males	60	1,421	292	120	497	39	--	5	--		--	--	69	1,127	1,480		208	83	1	5,402
Females	80	1,245	269	250	666	34	--	1	--		--	--	20	678	1,562		407	86	--	5,299
Without sponge	80	1,246	269	236	632	33	--	1	--		--	--	20	678	1,542		350	85	--	
Orange sponge	--	--	--	14	34	1	--	--	--		--	--	--	--	20		38	1	--	
Black sponge.	--	--	--	--	--	--	--	--	--		--	--	--	--	--		19	--	--	
Size range (mm)	34-56	28-77	34-96	37-94	38-108	36-104	--	50-95	--		--	--	33-59	42-98	35-97		35-102	38-106	46	
Cancer borealis																				
Males	--	--	--	--	--	--	--	--	1		1	1	--	--	--		--	--	--	3
Females	--	--	--	--	--	--	--	1	4		3	2	--	1	--		--	--	--	11
Size range (mm)	--	--	--	--	--	--	--	37	30-58		29-58	26-35	--	31	--		--	--	--	
Hepatus ephiliticus																				
Males	--	--	9	10	81	16	1	9	4		2	3	20	8	84		12	4	2	265
Females	10	1	34	20	98	26	--	16	3		7	3	12	3	36		22	5	--	296
Without sponge	10	1	33	17	95	26	--	16	3		7	2	8	2	26		22	5	--	
Orange sponge	--	--	--	--	--	--	--	--	--		--	--	--	--	2		--	--	--	
Black sponge	--	1	1	3	3	--	--	--	--		--	1	4	1	8		--	--	--	
Size range (mm)	42-77	46	49-77	40-90	42-83	41-84	63	33-80	33-77		27-80	60-85	22-82	35-80	33-86		52-82	44-67	42-73	
Libinia dubia																				
Males	--	--	--	--	--	--	--	--	--		--	--	--	1	4		--	--	--	5
Females	--	--	--	--	--	--	--	--	--		--	--	--	--	2		--	--	--	2
Size range (mm)	--	--	--	--	--	--	--	--	--		--	--	--	30	27-38		--	--	--	

Table 4.—Species composition of crabs in the area of Beaufort Inlet, North Carolina.—Continued.

Species	1962							1963												Total
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Libinia emarginata										No samples taken						No samples taken				
Males	2	16	2	--	6	11	2	23	15		10	8	31	19	14		--	--	1	160
Females	3	10	11	1	6	2	5	16	7		5	5	39	23	27		1	1	1	163
Without sponge	3	10	11	1	6	2	5	16	7		5	5	32	23	20		1	1	1	
Orange sponge	--	--	--	--	--	--	--	--	--		--	--	4	--	4		--	--	--	
Black sponge	--	--	--	--	--	--	--	--	--		--	--	3	--	3		--	--	--	
Size range (mm)	22-46	24-45	32-75	60	40-83	27-85	32-80	14-94	22-67		18-92	18-60	18-88	27-90	26-70		63	66	22-76	
Ovalipes ocellatus																				
Males	1,960	101	73	1	2	--	1	--	1		6	70	431	510	200		2	--	--	3,358
Females	1,763	121	82	7	5	--	2	1	2		2	40	331	491	276		6	--	--	3,129
Without sponge	1,763	121	82	7	4	--	1	1	1		2	40	331	491	276		5	--	--	
Orange sponge	--	--	--	--	--	--	--	--	1		--	--	--	--	--		1	--	--	
Black sponge	--	--	--	--	1	--	1	--	--		--	--	--	--	--		--	--	--	
Size range (mm)	22-60	35-62	31-65	48-55	44-62	--	46-52	52	44-45		19-26	21-51	22-53	22-70	35-60		44-60	--	--	
Ovalipes quadulpensis																				
Males	803	113	178	14	2	--	3	1	--		--	41	116	195	32		--	--	--	1,498
Females	758	--	158	12	--	--	--	1	--		1	23	70	168	18		--	--	--	1,209
Size range (mm)	23-45	25-55	23-53	26-40	33-44	--	35-52	37-41	--		57	19-52	23-52	22-47	27-40		--	--	--	
Persephona punctata																				
Males	11	5	25	6	13	1	--	1	--		3	1	8	9	42		1	--	--	131
Females	--	7	20	4	20	--	--	2	1		8	1	2	7	26		2	--	1	101
Without sponge	--	7	20	4	20	--	--	2	1		8	1	1	6	20		2	--	1	101
Orange sponge	--	--	--	--	--	--	--	--	--		--	--	1	1	4		--	--	--	
Black sponge	--	--	--	--	--	--	--	--	--		--	--	--	--	2		--	--	--	
Size range (mm)	25-39	20-37	21-48	21-43	20-40	24	--	25-27	33		22-32	30-36	22-40	25-43	23-37		27-33	--	28	
Portunus gibbesii																				
Males	720	1,080	192	33	84	33	3	39	13		71	89	141	169	232		26	15	8	2,948
Females	825	891	245	37	129	13	1	37	18		81	125	215	152	158		47	14	12	3,000
Without sponge	673	891	245	37	129	13	1	37	18		81	90	151	147	154		47	14	12	
Orange sponge	119	--	--	--	--	--	--	--	--		--	--	58	5	4		--	--	--	
Black sponge	33	--	--	--	--	--	--	--	--		--	14	6	--	--		--	--	--	
Size range (mm)	23-70	24-51	30-55	35-63	25-62	35-76	26-76	23-62	30-56		31-65	38-70	28-67	30-95	28-63		34-60	38-60	35-49	
Portunus spinimanus																				
Males	72	280	156	72	144	56	1	8	--		3	2	11	53	152		41	22	--	1,073
Females	99	270	112	60	148	54	--	5	--		6	10	28	53	178		28	21	--	1,072
Without sponge	59	270	112	60	142	54	--	5	--		6	7	19	53	176		28	21	--	
Orange sponge	20	--	--	--	3	--	--	--	--		--	3	6	--	2		--	--	--	
Black sponge	20	--	--	--	3	--	--	--	--		--	--	3	--	--		--	--	--	
Size range (mm)	34-79	24-69	26-77	30-65	33-77	37-93	52	28-55	--		35-65	52-68	32-75	28-65	27-60		33-78	32-85	--	

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[1] Size range include both sexes of all species.

[2] Mature *Callinectes sapidus* were not measured.

Table 5.—Checklist of larval, juvenile, and adult crabs collected Beaufort Inlet area, N.C., during 1962 and 1963.

Scientific name	Common name
PORCELLANIDAE	
Polyonyx gibbesi Haig	
HIPPIDAE	
Emerita talpoida (Say)	Mole crab
LEUCOSIIDAE	
Persephona punctata Rathbun	Purse crab
CALAPPIDAE	
Calappa flammea (Herbst)	Box crab
Hepatus epheliticus (Linnaeus)	Calico crab
PORTUNIDAE	
Ovalipes ocellatus (Herbst)	Spotted lady crab
Ovalipes quadulpensis (Saussure)	Lady crab
Portunas sayi (Gibbes)	
Portunas gibbesii (Stimpson)	
Portunus spinimanus Latreille	
Callinectes sapidus Rathbun	Blue crab[1]
Callinectes similis Ordway[1]	
Arenaeus cribrarius (Lamarck)	Speckled crab
CANCRIDAE	
Cancer borealis Stimpson	Jonah crab
XANTHIDAE	
Pilumnus spp.	
Menippe mercenaria (Say)	Stone crab
Neopanope texana sayi (Smith)	
Eurypanopeus depressus (Smith)	Flat mud crab
Panopeus herbstii H. Milne-Edwards	Common mud crab
PINNOTHERIDAE	
Pinnotheres ostreum Say	Oyster crab
Pinnotheres maculatus Say	Mussel crab
Dissodactylus mellitae Rathbun	
Pinnixa spp.	
GRAPSIDAE	
Pachygrapsus transversus (Gibbes)	Mottled shore crab
Sesarma spp.	
OCYPODIDAE	
Uca spp.	Fiddler crab
MAJIDAE	
Libinia emarginata Leach	Spider crab
Libinia dubia H. Milne-Edwards	Spider crab

[1] Only juvenile and adult form of *Callinectes similis* were identified.

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